UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,242	11/12/2003	Alan C. Lloyd	659-49	3554

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EXAMINER
AHN, SANGWOO

ART UNIT	PAPER NUMBER
2168	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/705,242	LLOYD ET AL.
	Examiner	Art Unit	
	SANGWOO AHN	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 December 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>139-223</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>139-223</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims 139 – 223 are pending in this application.

Claims 1 – 138 have been canceled.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new

ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 139 - 140, 142 – 148, 151, 161 – 162, 167, 175, 179 – 180, 182 – 183,

185 – 191, 194, 204 – 205, 210, 218 and 222 – 224 are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent Number 7,475,030 issued to

Mannoel Tenorio (hereinafter "Tenorio").

Regarding claim 139, Tenorio discloses,

A method for storage and retrieval of directory data in a directory system running on at least one processor having access to at least one data storage device and at least one communications network with interfaces to at least one application running on other processors having need of directory system services, said method comprising:

running plural intelligent directory service modules as a part of said directory system, said intelligent directory service modules comprising at least one of (a) an identity management module, (b) a presence management module, and (c) a messaging management module (Figure 2 elements 46 and 62, column 5 lines 31 – 53, et seq.);

storing data objects used by the directory service modules in respectively corresponding different organized logical segments of memory, each segment containing object attribute data needed by the corresponding directory service module to perform its intelligent service in response to an incoming request (column 7 lines 8 – 41: each object and its location may be uniquely identified using a numbering scheme corresponding to the directory structure, et seq.);

receiving directory service requests from said application(s) running on said other processors, said requests including an identification of the type of requested directory service comprising at least one of (a) identity service, (b) presence service, and (c) messaging service (column 6 line 63 – column 7 line 41, column 6 lines 21 – 44 (pointers), column 9 lines 26 – 37, et seq.);

directing received directory service requests to the directory service module

respectively corresponding to the identified type of requested directory service (column

7 lines 8 – 41, et seq.); and

returning responses to incoming requests based on the outputs of at least one

intelligent directory service module without requiring access of other object attribute

data separately stored for another of the intelligent directory service modules (column 7

lines 8 – 41, column 10 lines 23 – 34:: searching location where specific data is stored

without searching the entire table, et seq.).

Regarding claim 140, Tenorio discloses said directory system comprises at least

three intelligent directory service modules including at least: (a) an identity management

module, (b) a presence management module, and (c) a messaging management

module (Figure 2 elements 46 and 62, column 5 lines 31 – 53, column 9 lines 26 – 37,

column 10 lines 23 – 34, et seq.).

Regarding claim 142, Tenorio discloses data storage and processing methods

practiced by said intelligent directory service modules are embodied within solid state

integrated circuits (Figure 1, et seq.).

Regarding claim 143, Tenorio discloses said different organized logical segments

of memory containing object attribute data associated with corresponding different

intelligent directory services are, in turn, logical segments of memory providing a

directory information tree (DIT) (Figure 2, et seq.).

Regarding claim 144, Tenorio discloses said DIT is used to locate the logical

segment of memory corresponding to the requested intelligent directory service and to

access the object attribute data associated therewith (Figure 2, column 7 lines 8 – 41, et seq.).

Regarding claim 145, Tenorio discloses said object attribute data includes data indicating whether each of said attributes is associated with one or more other attributes (column 7 lines 8 – 21, et seq.).

Regarding claim 146, Tenorio discloses said attribute data includes data indicating whether each of said attributes is a sponsoring attribute for one or more other attributes (column 7 lines 8 – 21, et seq.).

Regarding claim 147, Tenorio discloses attributes having directory object naming characteristics in common are stored together (column 7 lines 8 – 21, et seq.).

Regarding claim 148, Tenorio discloses the directory object naming characteristics correspond to one of: distinguished name attributes, aliased distinguished names, and non-naming attributes (column 7 lines 8 – 41, et seq.).

Regarding claim 151, Tenorio discloses one of the intelligent directory services provides configuration services with said schema and management data to configure said object attribute data according to processing requirements of said intelligent directory services (column 3 lines 29 – 33, column 10 lines 47 – 50, et seq.).

Regarding claim 161, Tenorio discloses including modules for accessing and managing said plurality of memory segments (Figure 2 elements 46 and 62, column 5 lines 31 – 53, column 9 lines 26 – 37, column 10 lines 23 – 34, et seq.).

Regarding claim 162, Tenorio discloses including a composite attribute module for managing composite attributes and extracting from said composite attributes

particular attributes for storage in an associated object attribute data segment (Figure 2 elements 46 and 62, column 5 lines 31 – 53, column 9 lines 26 – 37, column 10 lines 23 – 34, et seq.).

Regarding claim 167, Tenorio discloses including a multi-object management module for processing two or more objects as an entity (column 6 lines 45 – 62, et seq.).

Regarding claim 175, Tenorio discloses including a relational search module for performing a distributed object relational search in response to a search query including relational operators (column 6 lines 45 – 62, et seq.).

Regarding claim 179, Tenorio discloses including at least one attribute processor adapted to store and process attribute data of a directory (column 6 lines 45 – 62, et seq.).

Regarding claim 180, Tenorio discloses said attribute processor includes an application-specific integrated circuit (Figure 1, et seq.).

Regarding claim 181, Tenorio discloses computer-readable storage media storing executable computer program code which, when executed, performs the method of claim 139 (Figure 1, et seq.).

Claims 182 – 183, 185 – 191, 194, 204 – 205, 210, 218 and 222 – 224 are rejected based on the same rationale as claims 139 - 140, 142 – 148, 151, 161 – 162, 167, 175 and 179 – 180.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 141 and 184 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tenorio in view of U.S. Publication Number 2002/0147893

issued to Roy et al (hereinafter "Roy").

Regarding claim 141, Tenorio discloses the method of claim 139.

Tenorio does not explicitly indicate customized virtual machines.

However, Roy discloses customized virtual machines (paragraph 2 lines 5 – 7, et

seq.). At the time the invention was made, it would have been obvious to a person of

ordinary skill in the data processing art to modify Tenorio's method to incorporate Roy's

use of virtual memory, thus extending available size of memory and also enabling

multitasking systems to run multiple processes on the machine, where each process

can be given access to the complete virtual address space of the processor.

Claim 184 is rejected based on the same rationale discussed in claim 141

rejection.

Claims 150 and 193 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tenorio in view of U.S. Patent Number 6,061,726 issued to

Cook et al (hereinafter "Cook") and U.S. Patent Number 7,051,039 issued to Ravi

Murthy et al (hereinafter "Murthy").

Regarding claim 150, Tenorio discloses a directory system as claimed in claim 139 and at least one object segment for storing other data for said directory object as previously discussed.

Tenorio does not explicitly disclose an object segment for storing distinct name binding rules and access control information for directory objects.

However, Cook discloses name binding rules in column 1- lines 1 – 65, et seq., and Murthy discloses access control information in Figures 2 – 4, column 4 lines 4 – 7. At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the aforementioned references, since Cook's name binding rules and Murthy's access control information would have enabled Tenorio, Cook and Murthy's overall system to provide quickly, simply, reliably, and easily the desired rights to obtain services and maintenance thereof.

Claim 193 is rejected based on the same rationale discussed in claim 150 rejection.

Claims 149, 152 – 153, 168 – 174, 192, 195 – 196 and 211 – 217 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of U.S. Patent Number 7,051,039 issued to Ravi Murthy et al (hereinafter "Murthy")

Regarding claim 149, Tenorio discloses the method of claim 139.

Tenorio does not explicitly indicate that one of the intelligent directory services provides security services and uses its own security attribute data corresponding to one

of: collective attributes, compound attributes, attributes of compound attributes,

X.500/LDAP operational attributes, user operational attributes, sponsoring attributes.

However, Murth discloses that one of the intelligent directory services provides

security services and uses its own security attribute data corresponding to one of:

collective attributes, compound attributes, attributes of compound attributes,

X.500/LDAP operational attributes, user operational attributes, sponsoring attributes

(column 3 lines 4 - 16, column 4 lines 4 – 8, column 4 line 56 - column 5 line 14, column

5 lines 34 – 37, et seq). At the time of the present invention, it would have been

obvious to a person of ordinary skill in the data processing art to combine the two

references since Murthy's security data would have enabled Tenorio's overall system to

provide uniform access control to relationally organized data and hierarchically

organized data.

Regarding claim 152, Tenorio discloses the method of claim 143.

Tenorio does not explicitly indicate the directory system generates a directory

operation access control identifier for use in determining whether a user is granted

access to perform a selected directory operation on a selected attribute type in a

selected portion of a DIT, said directory operation access control identifier identifying

said directory operation, said portion of said DIT and said attribute type, and the

directory system determines whether said access is granted on the basis of a

comparison of said directory operation access control identifier with one or more access

control identifiers associated with one or more of said portion of said DIT, said attribute

type, and an attribute type group including said attribute type.

However, Murthy discloses the aforementioned features in column 3 lines 4 - 16, column 4 lines 4 – 8, column 4 line 56 - column 5 line 14, column 5 lines 34 – 37, et seq. At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references since Murthy's security data would have enabled Tenorio's overall system to provide uniform access control to relationally organized data and hierarchically organized data.

Regarding claim 153, Murthy discloses the directory system is adapted to generate one or more access control identifiers for a user on the basis of access configuration information for a user, and a trusted operating system is used to determine said user's access to a directory object on the basis of access control identifiers associated with said object and said user (column 3 lines 4 - 16, column 4 lines 4 – 8, column 4 line 56 - column 5 line 14, column 5 lines 34 – 37, et seq.).

Regarding claim 168, Murthy discloses said two or more objects include a sponsoring object and one or more sponsored objects (column 4 lines 50 – 64, et seq.).

Regarding claim 169, Murthy discloses said multi-object management module is adapted to automatically generate said one or more sponsored objects when a sponsoring object is generated (column 4 lines 10 – 14, et seq.).

Regarding claim 170, Murthy discloses said multi-object module is adapted to automatically generate one or more objects related to a user object when said user object is generated (column 4 lines 10 – 14; 50 – 64, et seq.).

Regarding claim 171, Murthy discloses said user object represents a user, and said one or more objects represent one or more services for said user (column 4 lines 10 – 14; 50 – 64, et seq.).

Regarding claim 172, Murthy discloses including a service authorization module for determining whether a user is authorized to use one or more services (column 4 lines 10 – 14; 50 – 64, et seq.).

Regarding claim 173, Murthy discloses said service authorization module is adapted to perform said determining in response to a directory search (column 4 lines 10 – 14; 50 – 67, et seq.).

Regarding claim 174, Murthy discloses said directory search is based on an authorization matching rule, service and device properties, and an authorization token (column 4 lines 10 – 14; 50 – 64, et seq.).

Claims 192, 195 – 196 and 211 – 217 are rejected based on the same rationale as claims 149, 152 – 153 and 168 – 174.

Claims 165 – 166 and 208 – 209 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of International Publication Number WO 96/07147 by Richard H. Harvey (hereinafter "Harvey").

Regarding claim 165, Tenorio discloses the method of claim 161.

Tenorio does not explicitly indicate a collective attributes module for segregating collective attributes of entries within a name space.

However, Harvey discloses including a collective attributes module for segregating collective attributes of entries within a name space (page 32 lines 12 - page 33 line 3, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the two references since the combination would have enabled Harvey's overall system to provide uniform access to relationally organized data and hierarchically organized data (column 3 lines 26 – 28, et seq.).

Regarding claim 166, Harvey discloses including a X.509 certificate validation module for validating one or more certificate paths (Figures 2A – 2B, page 13, et seq.).

Claims 208 – 209 are rejected based on the same rationale discussed in claims 165 – 166.

Claims 154 and 197 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of U.S. Patent Number 7,058,664 issued to Hsu.

Regarding claim 154, Tenorio discloses a directory system as claimed in claim 139.

Tenorio does not explicitly disclose said memory segments includes transaction segments dedicated to storage of transaction data representing phases of a directory transaction to allow recovery of said directory transaction.

However, Hsu discloses said memory segments includes transaction segments dedicated to storage of transaction data representing phases of a directory transaction to allow recovery of said directory transaction (column 2 lines 13 – 24, column 7 lines 32

– 44, et seq.). At the time of the present invention, it would have been obvious to a

person of ordinary skill in the data processing art to combine the two references since

the combination would have enabled the overall system to recover user data in a

database for that provides a software application that is independent of any standard

backup and recovery utility.

Claim 197 is rejected based on the same rationale as claim 154.

Claims 155 – 160, 163, 198 – 203 and 206 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Tenorio in view of U.S. Patent Number 5,237,681

issued to Kagan et al.

Regarding claim 155, Tenorio discloses the method of claim 139.

Tenorio does not explicitly indicate an adaptation component for automatically

reconfiguring said memory segments on the basis of usage of said memory segments.

However, Kagan discloses at least one adaptation segment dedicated to storage

of adaptation data representing the usage of said memory segments (column 4 lines 29

– 31; 59 – 60, et seq.). At the time of the present invention, it would have obvious to a

person of ordinary skill in the data processing art to combine the two references since

the combination would have enabled the overall system to use memory resources more

efficiently and eliminate the cost of adding memory to enhance a system.

Regarding claim 156, Kagan discloses said memory segments include at least

one adaptation segment dedicated to storage of adaptation data representing the usage

of said memory segments (abstract lines 8 – 10, et seq.).

Regarding claim 157, Kagan discloses said adaptation data represents the organization of directory data stored in said memory segments (column 4 lines 29 – 31, et seq.).

Regarding claim 158, Tenorio discloses said reconfiguring includes segregating one or more portions of said directory data on the basis of access frequencies for said one or more portions of said directory data.

Regarding claim 159, Tenorio discloses said reconfiguring includes segregating one or more portions of directory data based on the number of instances of an entity of said directory data in a region of memory.

Regarding claim 160, Tenorio discloses said reconfiguring includes segregating instances of an attribute type from a name space into two or more regions of memory.

Regarding claim 163, Kagan discloses including a statistical module for generating statistical data in relation to directory entries (column 3 lines 65 – 68, column 4 lines 29 – 31; 59 – 60, et seq.).

Claims 198 – 203 and 206 are rejected based on the same rationale discussed in claims 155 – 160 and 163.

Claims 164 and 207 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of U.S. Patent Number 6,741,980 issued to Langseth et al.

Regarding claim 164, Tenorio disclose the method of claim 161.

Tenorio does not explicitly disclose generating notification data in response to modification of a monitored directory entry.

However, Langseth discloses generating notification data in response to modification of a monitored entry (column 1 lines 20 – 24, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the references since the combination would have enabled the overall system to deliver highly personalized and timely information at the right time when a predetermined condition occurs.

Claim 207 is rejected based on the same rationale discussed in claim 207.

Claims 176 – 177 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of U.S. Publication Number 2004/0146048 issued to Cotte.

Regarding claim 176, Tenorio discloses the method of claim 139.

Tenorio does not explicitly disclose a user presence management component that maintains presence attributes of said users, said presence attributes including an attribute that indicates whether a user is using a directory.

However, Cotte discloses a user presence management component that maintains presence attributes of said user, said presence attributes including an attribute that indicates whether a user is using a directory (paragraph 386 – 389, et seq.). At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the above references since the

combination would have enabled the overall system to realize advantages, such as privacy, ease of use, and/or data communications capabilities, offered by available communications environments.

Regarding claim 177, Cotte discloses a presence service and generating one or more events in response to a change in said user presence data (paragraph 386 – 389, et seq.).

Claims 219 – 220 are rejected based on the same rationale discussed in claims 176 – 177.

Claims 178 and 221 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenorio in view of U.S. Patent Number 6,741,980 issued to Langseth et al.

Regarding claim 178, Tenorio discloses the method of claim 139.

Tenorio does not explicitly indicate the message-based service component includes a message transfer component that enables the message attributes of said directory objects to be transferred to other directory objects.

However, Langseth discloses a message transfer component that enables the message attributes of said directory objects to be transferred to other directory objects (column 3 lines 12 – 15, et seq.) At the time of the present invention, it would have been obvious to a person of ordinary skill in the data processing art to combine the references since the combination would have enabled the overall system to deliver

highly personalized and timely information at the right time when a predetermined

condition occurs.

Claim 221 is rejected based on the same rationale discussed in claim 178.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to SANGWOO AHN whose telephone number is (571)272-

5626. The examiner can normally be reached on M-F 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tim T. Vo/   3/15/2009
Supervisory Patent Examiner, Art Unit 2168   /S. A./
                                                        Examiner, Art Unit 2168